

THE AUTOMOBILE MAGAZINE

A Live Journal for all interested in Motor Vehicles

VOL. III No. 10 NEW YORK, OCTOBER, 1901 PRICE 25 CENTS

Published Monthly by
THE AUTOMOBILE PRESS,
95 LIBERTY STREET, NEW YORK.

Telephone: 984 Cortlandt.

Cable Address: "Loceng," N.Y.

ANGUS SINCLAIR, President.

FRED H. COLVIN, Vice-President.

JAS. R. PATERSON, Secretary.

MALCOLM W. FORD, Editor.

A. LRENALIE, Associate.

BOSTON OFFICE, 170 Summer Street.

PHILADELPHIA, The Bourse.

Subscription Price, \$3.00 a year to any Country in the Postal Union. Advertising Rates on application.

Copyrighted, 1901.

Entered at New York Post Office as second-class matter.

For Sale by Newsdealers everywhere.

A Reverential Act in an Automobile

SEPTEMBER 19.

I WAS personal witness to-day of a truly reverential recognition of the five-minute allotment to cessation of traffic on the day of William McKinley's funeral. An automobile containing four persons had arrived opposite one of the Fifty-ninth Street cars just as it stopped at 3.30 p. m., in accordance with this prearranged act of respect. The vehicle also stayed its course and the occupants immediately bared their heads, following the example of the French chauffeur, who involuntarily recurred to the custom of his country, which is to remove the hat in the presence of a funeral cortege. It was an unexpected and touching incident to the onlookers.

And since, commemorative of this unparalleled token of respect to a dead President, there comes to me from the pen of one of our automobile adherents an appropriate poem, it may not be amiss to offer it

to the readers of the *AUTOMOBILE MAGAZINE* at a time when, irrespective of individual joys and griefs, every citizen wears the badge of universal mourning.

A SHROUD OF THOUGHT.

A SHROUD of woven thought,
On loom of Silence wrought,
Enfolds a martyred soul
In winding-sheet of dole.

A nation's stifled cries,—
Swift shuttle-point that plies
To weave the blood-stained web
Of woe ; in pattern deft

Outlining, clear and bold,
With mem'ries manifold,
The riven life of One
Bemoaned 'neath all the sun.

* * *

To such, these moments vain
Give tribute all too brief ;
And so, earth's pulse again
Beats on, to newer grief.

A. L.

The Endurance Test just concluded by the Automobile Club of America was, as a whole, a successful trial of the ability of the modern automobile to travel successfully with passengers across the average topography of this country, where road surface has not reached the high standard that is so universally seen in Europe. The test, although not producing a way to determine on the most serviceable, proportionately economical and most reliable traveling vehicle, has recorded a basis on which some of these technical points may be better obtained in a future trial. Those vehicles which have won first, second and third class certificates, representing twelve, ten and eight mile per hour speed for five consecutive days, have added a reputation which is a valuable adjunct to other good points in many cases known only to their builders. Now they will have something that should be understood by the average purchaser of a touring automobile.

Races at Detroit

WILLIAM E. METZGER, chairman of the Detroit Automobile Racing Association's racing committee, writes that arrangements are progressing for a proposed Automobile race meet, to be held October 10, 1901, at Detroit, Mich. Elaborate cup and other trophies, to the value of \$1000, are to be contested for on the one-mile race course within the Detroit Driving Club's Park. This track is splendidly banked, sufficient in fact it is said to insure mile-a-minute work; it is wide on the stretches and at the turns, and by chauffeurs who have driven upon eastern tracks, this course is voted the very best in the country for fast automobile work. The people in Detroit, and towns surrounding, are showing great interest in this proposed Automobile event and will, it is believed, do all that is possible, in way of continued interest, attendance at races, etc., to insure a big success. The arrangement of events upon the program is now being considered, but before decision and publication the committee is desirous of receiving and acting upon any suggestions automobilists might offer—classes, specifications, distances, etc. All are urgently invited to appear and compete. The committee is already assured of numerous first-class entries in the several classes.

Address all communications to William E. Metzger, 254 Jefferson Avenue, Detroit, Mich.

Chicago Automobile Club

THE Chicago Automobile Club is now headed by the following officers: President, F. C. Donald; Vice-President, E. F. Brown; Secretary, H. M. Brinkerhoff; and preparations are being made to have a number of club runs in the Fall. The Board of Governors had arranged a tour to Buffalo to meet contestants who finished the 500-mile endurance test, but on account of the death of the country's President the full program was not carried out. In speaking about the standing of the club, so far as concerns the trade influence being too strong in it, Wm. D. Sargent says that the majority of the board, of which he is also a member, are not directly or indirectly interested in the automobile trade, and that any statement to the contrary is a misrepresentation of facts.

L'Allumage

Messrs. Sencier and Delasalle have recently published a book thoroughly reviewing the present status of the electric motor, from which we gather that the actual facts of their structure (lightness of weight and solidity being too much sacrificed in favor of the accumulators, as they are now manufactured) and of their enduring capacity must relegate them to the position of "*carriages de luxe*." To attempt to use them for touring purposes would be impractical and dangerous, according to these gentlemen, who have given careful study and logical consideration to the matter in full. Despite all the improvements that are being constantly made (on paper) the electric motor remains at the same point of progress, and is still a factor of elegance and equability, rather than practical use. But the day *will* come—so it is predicted.

* * *

While the Parisians have been debating the advisability of establishing motodromes, for the trial of automobiles, the Italians have anticipated them, and at the last reunion of the automobilists at Padua, a committee was appointed to carry out a plan as laid out by a prominent engineer, M. Navarrini. There are many complex conditions attending the carrying out of such a plan successfully. The track must have a circumference of at least 12 or 13 kilometers (about 9 miles); it should be laid over a territory involving as little expense as possible for expropriations and should not be intersected by important thoroughfares; must be easy of access and near good, macadamized roads; the curves of the motodrome must be of a large radius, necessarily, to permit the motors to take them at the highest rate of speed; a wide field of experiences, in hill and slope, must be afforded the machine. The track described is 12 kilometers 300 in length by 20 meters in width; buildings are projected all along the course, affording every necessity for man and motor, such as restaurants, hotels, repair shops and reviewing stands—all that may possibly be required being easily accessible. Doubtless some such means will eventually be provided whereby tests of speed, etc., can be made without carrying danger into the thoroughfares of the public.

* * *

Royalty luxuriates in every comfort that can be added to auto-

mobile touring. The King of Belgium has attached to each side of the tonneau body of his motor an exquisite case containing a complete breakfast service, with the necessary silver. A Parisian jeweller furnished the full outfit, for the mere bagatelle of 20,000 francs.

* * *

A Rajah of India disports himself in a fine French motor and has imported a French mechanic for his chauffeur. Since he has great difficulty in procuring the necessary petroleum, as it is told, why does not some enterprising manufacturer establish a depot for automobile supplies at Bombay?

* * *

Baron de Zuylen's motor, which has attracted so much attention in the Paris-Berlin races, is a veritable salon, its seats turning to suit the convenience of the passengers. It is a 4-cylinder type of 20 horsepower and travels with no perceptible motion, so beautifully balanced is it.

* * *

The Bordelaise Automobile Club has voted the purchase of a balloon and hopes to invite its members to witness the first ascension, which will take place some time early in the month of September. As much interest centers about aeronautic perfecting in France as about automobiling.

* * *

Paper rallies are a prominent feature of automobiling among the French clubs, which join far more pastime to their motor-featuring than Americans or English do. The Lorrain Club, in a recent contest of this nature, entered eighteen carriages, of which the driver of a De Dion-Bouton came in as first prize winner—M. Noirot. M. Marconnet, with his Panhard, gained second prize.

* * *

As taxes on all species of motors are being increased in France, while municipal restrictions governing speed, etc., are becoming more and more rigid, Paris and its periodicals devoted to the sport of automobiling are in a ferment of righteous indignation over the injustices perpetrated in the name of public safety. The more conservative parties contend that most of this undue severity has been occasioned by the faults of a few "scorchers," who, like all extremists, throw odium on any new movement with which they may be connected, and restrict rational progress. Until the evil shall heal itself they are expending their French volatility in blasts of wit and irony such as every

true Frenchman exults in—always including a laugh at his own expense as well as that of the oppressor. Many lengthy suburban ordinances, composed of whereas-es without end (or reason, it is said), are quoted in ridicule and, from an unbiased standpoint, would seem to deserve opposition. "Happy new-yorkais!" is their comment on our recent franchise permitting chauffeurs to operate a motor without a license.

* * *

The *Auto-Velo* furnishes the following extracts from a poem, "written between two punctures," by one of their fervent disciples of automobilism :

SAINT AUTO'S LITANIES.

Deliver us, Saint Auto :

Withal, at every juncture,
Deliver us from puncture.

Preserve us from ignition
That acts in fair condition
Until a storm o'ertakes us,
Then, suddenly, forsakes us,
Short-circuited, no city
In sight—the saints take pity !
From water-pump and sliding
We would, in thee confiding,
Implore protection duly,
And render thanks most truly.

But O, at every juncture,
Deliver us from puncture.

"Out of the fulness of the heart the mouth speaketh," verily.

* * *

A caricature which first appeared in *Rire* is creating a ripple of laughter in automobile circles in France, the recent tyranny of municipal rule, regulating speed to no more than six miles per hour for automobiles, lending special spice to the satire. An unfortunate cripple, toiling along with wooden bowls fitted to his knees and hands, crawls slowly over the ground on his distorted limbs. An officer, from beneath his frowning brows, is casually watching him. And the cripple anxiously exclaims :

"How he watches me ! Can I be walking too fast ?"

And 'tis said the public are demanding that cripples, also, should be placarded with large figures.

An International Automobile Club is about to be organized at Paris, many proposed members of which are among royal families. It is rumored that among other plans this club has for one of its chief aims the establishing of a vast motordome. Thus this idea is gradually accumulating into tangible shape.

* * *

One of the Dietrich motors, conducted by Letourneau in the Paris-Brest run, carried the photographic apparatus of the "*Vie au grand air*"; its brave driver never left his post for 54 consecutive hours and beat the Levassor record by 6 hours—an excellent record of staying power.

* * *

The Automobile Club of Flanders has just held a "Concours de Pronostics." For the benefit of the unenlightened I translate this to mean, as nearly as can be expressed in English, a "Say how fast you expect to travel" race. It took place over a course of 35 miles and the winner, who most nearly realized the speed at which he had expected to travel, was M. Hobbewick, on a Delahaye. His realizations tallied exactly with his expectations, which were 16 miles an hour.

* * *

The Automobile Exposition at Hamburg appears to have produced most happy results in converting disbelievers to a more just frame of mind towards the new methods of locomotion. The active animosity which was at first indulged in by drivers of horse vehicles was promptly repressed by the proper authorities, and since then enthusiastic approval has been won from all classes. So the good work goes on—a work of conversion which should never have been necessitated to its existing extent, for, after all, the automobile is a vehicle like any other, needed to keep pace with the times and useful as a means of transport—the only difference being that the automobile is operated, not by beasts of burden, but by a monster beast, concealed, invisible and designated as a motor, which difference does not constitute any valid reason for frowning upon the new, in preference to established methods.

LA CHAUFFERETTE.

Analysis of the Wear of Roads

By W. WORBY BEAUMONT, M. Inst. C. E.

THE title given to this paper by the author is "Points as to Wear on Roads Caused Respectively by Horse Haulage and Motor Traffic." Since the day when Telford and MacNeill, his resident engineer (afterwards Sir John MacNeill), and others gave so much attention to the subject, it has been recognized that the wear of roads by horses' shoes was considerably greater than the wear of roads by the wheels the horses hauled.

It was shown by the observations of MacNeill that the wear by the horses hauling heavy vehicles and heavy loads was less than that by the horses hauling the lighter loads at the higher speeds. The relative proportions of the wear under these different classes of traffic were fully stated in evidence before the Select Committee on Steam Carriages in 1831, and very little has transpired since to alter the qualitative value of the conclusions then announced, although road and vehicle improvements have added to the number of exceptions to their quantitative value. See report of Select Committee in Gordon's "Elemental Locomotion," pp. 131 *et seq.*

The causes of road-wear were summarized for a general statement, and may be collated as follows :

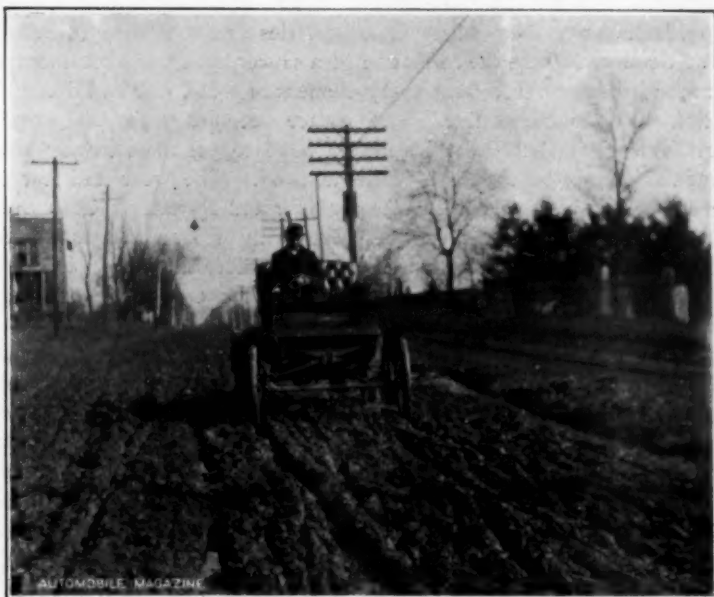
GENERAL RESULTS OF OBSERVATIONS OF CAUSES OF ROAD WEAR AND DETERIORATION.

Kind of Vehicle and Load.	Wear due to Atmospheric causes.	Wear due to Wheels.	Wear due to Horses' Feet.
	per cent.	per cent.	per cent.
London and Birmingham Coaches— Weight, 16 to 18 cwt. empty; loaded, 45 cwt. Speed, 8 to 12 miles per hour. }	20	20	60
Wagons—Weight, 25 cwt.; loaded, 92 cwt. Speed, 3 miles per hour. }	20	35.5	44.5

These figures can only be taken as roughly approximate because the character of the roads in different places and the gradients make any approach to accuracy impossible. It may, however, be conceded that the relative proportions on average country roads with some ex-

ceptions remain much the same to-day, as the widths of wheels remain about the same for the lighter vehicles, although on the whole they are narrower for the heavy vehicles generally classed as wagons.

Anyone who has observed the effects of the passage of different kinds of vehicles along the road, including the Dashwood and Ashton Hills, can obtain very good evidence of the nature of the wear due to the different causes which obtain with horse-hauled and motor-propelled vehicles, and it will be seen that the figures and statements of



Fourth Day of Endurance Run

Telford, MacNeill, McAdam and others are of value to-day. It may also be seen everywhere in and near London, where the macadam roads are very bad especially in the parks (not the tree covered) but where the traffic is of light vehicles and numerous horses.

The great departures from the general applicability of these figures arise where the roads are particularly well made and maintained.

On the best roads it may be said that the injurious effect of atmospheric changes is less, that the wear due to the wheels is less, and that the wear due to horses' shoes is greater than in the preceding table.

Where roads are made with metalling of small size and a minimum of binding materials, the irregularities in compactness are less than in roads made with large metalling, the almost regular recurrence of looser and tighter patches due to the method of compacting by rollers is less, and the effect of the hammering by horses' feet between the harder or more compacted recurrent spots is less. On most roads, however, the effect of the hammering and scrabbing by horses' shoes is to loosen and remove most where it is most easily moved. The hollows are thus rapidly made more hollow, iron-tired wheels at high speeds hammer their edges or boundaries and so enlarge them and water collects. Once the formation of a saucer hollow has commenced it soon becomes a dish, and every element of wear, tear and deterioration becomes cumulative. The surface becomes worse and worse, until it is a pain and mortification to have to use them for anything but the heavy slow traffic of 3 miles an hour. The wear and tear of every vehicle of speeds of 8 miles per hour and upwards is enormous, as compared with what it need be. Even with the large wheels of hansom cabs it requires the patience of Job to endure the jolting, and the jobmasters have to keep their best language for expressions of reverence of their repair bills.

To gain anything like a true knowledge of the effect of the average bad road surface in the destruction of vehicles, it is only necessary to take a run in a light motor carriage with, say, 30-inch wheels and solid rubber tires at, say, 12 miles an hour. It may be just possible to retain one's dental integrity at this speed, but at anything like a sufficient speed to avoid a charge of wasting time on the road, it would be necessary to have spine and teeth of india rubber. A motor carriage makes an excellent road surface inspector. It experiences all the badness and says nothing.

Now it is better roads we must have for the higher speeds that modern times demand ;—more men and for a time more money at the disposal of our engineers and surveyors.

Usually very little is done of the nature of effective mending. It is sometimes said that mending and patching are of no use. Mending badly done under incompetent teaching and supervision is of no use, but with roads well made in the first instance, and then kept under inspection by intelligent men with sufficient careful workmen under them and suitable tools and materials for making timely corrections and repairs, mending should be of real use. Roads should be under inspection as constant as that of the permanent-way of the railway,

and each district superintendent should be as responsible for the perfect keeping of his length of the road as the district superintendent on a main line of railway.

All this means money, and, in the first instance, rather more money than usual ; but the author is quite sure that in a short time such thoroughly kept roads would cost less than the making and re-making of badly kept roads. Even if it cost a little more everybody would reap the benefit of it through the lessened wear and tear of every vehicle on the roads and the greater comfort and pleasure.

It would be to no purpose to say that things would be much better were it not for the wear by horses' shoes. Horses on the roads and streets of the kingdom may be reckoned in millions, and it will be a very long time before the seven figures necessary to represent this quantity are reduced to six figures.

The growth of the use of motor vehicles will, however, gradually though slowly do this. Meanwhile the indications of modern changes in the type of horse and vehicle used for transport of everyday merchandise should be noted. Time of delivery, in other words speed, has become the dominant factor, and hence the trotting cart-horse and the light high-speed van with narrow tires have grown more rapidly than any other type, and the heavy slow-speed van for such work is but little used. It is these light vans, carrying from 1 to 1½ tons on 2-inch tires, and with trotting horses, that do more mischief on the roads than any other class, unless it be omnibuses. The same loads at half the speed would do very little damage, except at starting places and on the hills. It is the speed that wears the vehicle, and, therefore, the roads. The speed, however, must be had for all but the very heavy traffic.

To make this possible we must have (1) well-made and well-maintained roads ; width of tires (when metal) ample in proportion to load on them. And as far as practicable, encouragement should be given to (1) the use of rubber tires generally ; (2) the use of light load motor vehicles, the earning capacity of which is ensured by dispatch in transit, and not by weight of load.

The endurance of materials fixes limits of either speed or load. We may have high speed and light load, or heavy load and low speed. We cannot have both on common roads as made and kept now, but both speed and load may be increased upon really good road surfaces.

It is not, however, in this connection necessary to consider con-

tinuous heavy traffic on any definite line as between two or more towns. When the quantities of materials to be carried become large and constant, or nearly so, such as from 500 to 1,000 tons per week, then the conditions which require a railway—or at least a tramway or plateway—have been reached. Such quantities are best off the macadam or any other kind of highway, however made, and in fact could not be carried by them on heavy metal-tired vehicles.

Considering then only the lighter class of motor vehicles, such as those which carry from one to two tons, at speeds which may meet modern requirements, it may be confidently expected that the wear of the roads by them will be from 20 to 40 per cent. less than by horse-



A Vehicle Requiring Good Roads

hailed vehicles, and that it will, therefore, pay to spend more money at first in following out the best possible construction and afterwards in maintaining a trained body of road repairers constantly at work so that these vehicles may be profitably used.

To the lessening of the cost of road upkeep has to be added the lessened cost of scavenging, which will also be very great, even if for the moment the cost of removing the horse-offal from our streets is not included, or the hygienic value of its absence not considered.

In concluding this brief paper on a subject which want of time prevents dealing with systematically, the author wishes to repeat that there is nothing on which the County Councils of this kingdom can spend money more profitably than on the proper construction and efficient maintenance of good roads.

Two New Instruction Books

THE De Dion-Bouton Motorette Company, of Brooklyn, have issued a very complete and valuable instruction book for their customers and others. It begins by giving a brief description of the machines in a general way and then takes up the motor, vibrator, sparking plug, vaporizer and speed mechanism in detail, illustrating and describing them in an easy and interesting manner.

After this comes a unique plan of showing the different parts of the mechanism. This consists of plan views, in outline of the carriage with body removed, each view having a different portion emphasized by heavy lines. For example, figure 9 shows the entire mechanism, but all the electrical connections are in heavy lines. This makes it easy to follow them and also shows their relation to the other parts of the machine.

The brakes, water cooling, gasoline tank and connections, gas and spark control, speed control or change gears and reverse, starting arrangement, exhaust connections and muffler and the steering system all have separate diagrams. Following these are careful instructions for operating and caring for the machines which will prove valuable to anyone who owns a carriage and also of interest to those considering the purchase of one. The laws of New York State regarding motor-ing and handy tables of gradients and metric measurement are also included.

The book is sent free to customers and others can obtain a copy for 50 cents. It is well worth the price to anyone interested.

The Haynes-Apperson Company, of Kokomo, Ind., have also issued a little instruction book, much smaller than the other, but containing illustrations of the mechanism of their well known machines and full directions for operating. As with the other book, it will be found of value to all who are interested in gasoline carriages.

"Told by Two," by Mary St. Felix. Published by M. A. Donahue, Chicago. One of the best told stories we have read for some time. Each of the principals, a weak brained wife and a selfish bachelor, tell their portion of the story in an interesting manner, and many bright sayings and anecdotes are related. While we cannot admire either party, the characters are faithfully drawn, and the author has handled the plot, if plot it can be called, with care and skill.

A New Storage and Repairs Station

THE general adoption of automobiles during the past year or two has been the cause of opening many storage, repair and charging depots in Manhattan. In some cases, however, the haphazard way in which these have been attended to has been far from satisfactory. The New York Automobile Repository have secured a large and centrally located building at 143 West Fifty-first Street, and it is a well-equipped station for all classes of vehicles. It will be managed by Mr. H. M. Underwood, who has for many years been closely allied with the electrical engineering field and automobile industries of this country. Special features in the handling of vehicles and the separation of each class by itself, viz., electric, steam and gasoline, will commend themselves to all owners. The repository will be open at all hours and skilled labor only employed, the aim of this company being to deliver work second to none and at a reasonable figure.

There seems to be a lack of invention in regard to a method of showing the amount of gasoline in the tanks of steam vehicles. In a gasoline machine you can take off the cap and look in—taking care, of course, that there is no flame near the opening—or you can measure with a stick. With a steam machine this is not feasible on account of the air pressure in the tanks, for even if you close the valve on air tank you lose what pressure there is in the gasoline tank and will probably need to pump up again by hand. A gage glass is a doubtful and dangerous solution, owing to possible breakage of glass and probable leakage around the glass connections. The best solution I have seen is that used on the White carriage. It's simply three small pet cocks at different heights on the gasoline tank. These are used just like gage cocks on water columns and you tell the approximate height, and consequently quantity, by the pressure of oil or air at the various cocks. Without some such means it's a case of watch your mileage and guessing how long your 6 or 8 gallons will last. If you're a poor guesser you may be stranded with no supply in 5 miles or less.